

Atlantic Richfield Company

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March 5, 2014

Mr. Steven Way
On-Scene Coordinator
Emergency Response Program (8EPR-SA)
US EPA Region 8
1595 Wynkoop Street
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Delivered via e-mail

**Subject: February 2014 Monthly Progress Report
Rico-Argentine Mine Site – Rico Tunnels
Operable Unit OU01, Rico, Colorado**

Dear Mr. Way,

This progress report describes activities conducted during the month of February 2014 at the Rico-Argentine Mine Site (site) and activities anticipated to occur during the upcoming month. These activities are organized by task as identified in the Removal Action Work Plan. This progress report is being submitted in accordance with Paragraph 35.a of the Unilateral Administrative Order for Removal Action (the "UAO"), dated March 17, 2011.

ACTIVITIES FOR FEBRUARY

This section describes significant developments during the preceding period including actions performed and any problems encountered during this reporting period.

Site-Wide Activities

- Performed avalanche hazard observations on February 11 and 13, 2014, to evaluate site-specific snowpack conditions and access route safety prior to performing site surface water and groundwater monitoring activities.
- Provided the Avalanche Hazard Study report for the St. Louis Ponds Site and the Argentine Mill Site/Access Road to the EPA on February 13, 2014.
- Finalized and provided the Winter Access and Operations Plan, revised for winter 2013/2014, to the EPA on February 14, 2014.
- On February 4, 2014 submitted proposed schedule modifications in writing to EPA, and on February 5, 2014, discussed the proposed schedule modifications with EPA.

Task A – Pre-Design and Ongoing Site Monitoring

- Submitted and posted the Final October 2013 Surface Water and Ground Water Sampling and Flow Monitoring Reports to the project SharePoint site.
<https://www.aecomonline.net/projects/Rico/>
- Submitted the Preliminary November 2013 Surface Water and Ground Water Sampling and Flow Monitoring data to EPA.
- Reviewing November 2013 Surface Water and Ground Water Sampling and Flow Monitoring Report prior to final submittal to EPA and posting to the project SharePoint site.
- Performed first quarter surface water and groundwater monitoring activities between February 11 and 19, 2014.

- An inspection of the pond system spillways, pipes, water levels, flumes, and general conditions was performed. The overall condition of the pond system was good. All spillways and pipes were observed to be flowing without obstruction. Pond water elevations were not surveyed due to ice and snow covering the ponds.
- Surface water and groundwater samples were collected and submitted for laboratory analysis, in general accordance with the 2013 site *Sampling and Analysis Plan for Surface Water and Groundwater* and *Quality Assurance Project Plan for Surface Water and Groundwater*. The following modifications, as approved via email from the EPA on February 13, 2014, were made to the analyte list for this sampling event.
 - o Added dissolved fluoride to the list of anions.
 - o Added dissolved strontium to the list of metals.
 - o Analyzed dissolved silica rather than total (permanent change to the analyte list).
 - o Discontinued analysis of potentially dissolved metals in all groundwater samples.
- During the first quarter sampling event groundwater samples and water levels were obtained from the following groundwater wells: GW-1, GW-3, GW-4, GW-5, EB-1, EB-2, MW-1 SHALLOW, MW-1 DEEP, MW-2 DEEP, MW-3 DEEP, MW-4 SHALLOW, MW-4 DEEP, MW-5 SHALLOW, MW-5 DEEP, MW-6 SHALLOW, MW-6 DEEP, MW-101, MW-103, MW-104, P13-102, P13-103, CHV-101S, MW-105, MW-106, MW-107, MW-108D, MW-108S, MW-109S, MW-110, MW-201, MW-205, MW-207, MW-208, PZ-1, and PZ-2. The following wells were found to be dry: GW-6, MW-202, MW-2 SHALLOW, and MW-3 SHALLOW.
- Monitoring activities were not performed at locations within avalanche run-out zones due to safety concerns. These locations included GW-7, MW-102, MW-204, MW-203, CHV-101D, CHV-101M, CHV-101U, and angle boreholes AT-2 and BAH-01.
- During the first quarter sampling event, Dolores River grab water samples were collected from DR-1, DR-2, DR-7, DR-4-SW, and DR-G.
- Flow measurements and composite samples were not collected from the Dolores River due to safety concerns.
- During the first quarter sampling event, surface water samples were collected from St. Louis Ponds location DR-3, DR-4, DR-5, and DR-6.
- Flow data was downloaded from the Parshall flume data loggers for the OTT PLS pressure transducer and the ultra-sonic level sensor at the north flume (DR-3) and the OTT Orpheus Mini at the south flume (DR-6).
- Replaced DL 3000 data logger at DR-3 with DLIGHT data logger in order to allow for servicing of the DL 3000 data logger by the manufacturer.
- Additional evaluation of potential improvements on field water data gathering and telemetry. Continued work on the antenna permit with the Town of Rico.

Task B – Management of Precipitation Solids in the Upper Settling Ponds

- The St. Louis Tunnel discharge was routed to Pond 15 during the Month of February 2014.

Task C – Design and Construction of a Solids Repository

- Continued preparation of the Dolores County Land Use Application and associated documents for a Certificate of Designation for the solids repository.
- Continued work to secure lands needed for a permanent solids repository.
- Continued development of the Request for Proposal (RFP) documents for construction of the Phase 1 solids repository.
- On February 21, 2014, submitted information to EPA summarizing efforts taken to date to secure access for Phase 1 repository construction and requesting assistance from EPA in gaining additional access needed.



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Task D – Hydraulic Control Measures for the Collapsed Area of St. Louis Tunnel Adit

- Continued design of the proposed St. Louis Tunnel hydraulic control remedy, which included continued drainage through the debris plug with sub-horizontal relief wells to control hydraulic head behind the debris plug, plus monitoring wells to evaluate hydraulic head in the tunnel.

Task E – Source Water Investigations and Controls

- Continued preparing a summary report documenting the results of the 2012 and 2013 St. Louis Tunnel Discharge Source Mine Water Treatability Studies (517 Shaft injection tests) for submission to the EPA by March 31, 2014.

Task F – Water Treatment System Analysis and Design

- Continued pilot-scale wetland treatability study activities.
 - Flow through the pilot-scale wetland will be maintained until the matrix materials from the rock drain and wetland cell are re-used as inoculum for the wetland demonstration.
 - Performed sampling and monitoring on February 18, 2014, in general accordance with the task-specific *Sampling and Analysis Plan*.
 - Collected water samples from the inlet flow control box, rock drain monitoring port, and wetland outlet and submitted for laboratory analyses on February 18, 2014.
- Continued wetland demonstration treatability study activities.
 - Commenced revising the wetland demonstration Work Plan and Performance Monitoring Plan to document changes, per the *St. Louis Tunnel Discharge Constructed Wetland Demonstration Treatability Study Unified Wetland Design and Technical Specifications*, which were submitted to EPA on December 31, 2013.

ACTIVITIES FOR UPCOMING MONTH

This section describes developments expected to occur during the upcoming reporting period, including a schedule of work to be performed, anticipated problems and planned resolution of past or anticipated problems.

Site-Wide Activities

- Continue performing periodic avalanche hazard observations as needed to evaluate site-specific snowpack conditions and access route safety.

Task A – Pre-Design and Ongoing Site Monitoring

- Inspect the St. Louis Ponds System, water levels, free-board,
- Download flow data at DR-3 and DR-6.
- Complete, review, and post the November 2013 Surface Water and Ground Water Sampling and Flow Monitoring Reports to the project SharePoint site during March 2014.
<https://www.aecomonline.net/projects/Rico>
- Initiate updates to the 2013 site *Sampling and Analysis Plan for Surface Water and Groundwater* and *Quality Assurance Project Plan for Surface Water and Groundwater* to document changes to surface water and groundwater monitoring program.

Task B – Management of Precipitation Solids in the Upper Settling Ponds

- Continue routing St. Louis Tunnel discharge to Pond 15.



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Task C – Design and Construction of a Solids Repository

- Continue work to secure the Dolores County Land Development Agreement and accompanying Certificate of Designation for the solids repository.
- Continue efforts to secure access to lands needed for a permanent drying facility and solids repository.
- Continue preparing the RFP documents for construction of the Phase 1 solids repository.

Task D – Hydraulic Control Measures for the Collapsed Area of St. Louis Tunnel Adit

- Continue detailed design for the hydraulic control measures for the collapsed area of the St. Louis Tunnel (adit).

Task E – Source Water Investigations and Controls

- Finalize and submit to the EPA by March 31, 2014, a summary report documenting the results of the 2012 and 2013 517 Shaft injection tests.

Task F – Water Treatment System Analysis and Design

- Continue pilot-scale wetland treatability study activities.
 - Maintain flow through the pilot-scale wetland until the matrix materials from the rock drain and wetland cell are re-used as inoculum for the wetland demonstration.
 - Perform an inspection of the pilot-scale wetland during routine pond system inspections.
- Continue wetland demonstration treatability study activities.
 - Finalize and submit to the EPA by March 31, 2014, revisions to the wetland demonstration Work Plan and Performance Monitoring Plan to document Unified Wetland Design changes.
 - Issue the RFP for construction of the Unified Wetland Design and conduct a bidder's site walk.
- Continue scoping additional data needs as necessary related to treatment system alternatives.

If you have any questions, please feel free to contact me at (951) 265-4277.

Sincerely,



Anthony R. Brown
Project Manager
Atlantic Richfield Company

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